

October 28, 2004

Mr. Louis M. Quintana
Manager, GENE Licensing
General Electric Company
175 Curtner Avenue, M/C 365
San Jose, CA 95125-1014

SUBJECT: REISSUANCE OF SAFETY EVALUATION REPORT REGARDING THE APPLICATION OF GENERAL ELECTRIC NUCLEAR ENERGY'S TRACG CODE TO ESBWR LOSS-OF-COOLANT ACCIDENT (LOCA) ANALYSES (TAC NOS. MB6279, MB6280, MB6281, MB6282, MB6283, MB6801 AND MB7255)

Dear Mr. Quintana:

By letter dated April 18, 2002, General Electric Nuclear Energy (GENE) requested a preapplication review of the economic simplified boiling water reactor (ESBWR) advanced passive reactor design. At GENE's request, the preapplication review is focused on the TRACG thermal-hydraulic analysis computer code and the testing and scaling programs relevant to assessment of the computer code. By letters dated August 30 and November 19, 2002, and January 9, 2003, General Electric Company (GE) submitted the following eight topical reports (TR) in support of the ESBWR preapplication review:

- C NEDC-32606P, SBWR Testing Summary Report;
- C NEDC-32725P, TRACG Qualification for SBWR, Rev.1, Vol. 1 and 2;
- C NEDC-33079P, ESBWR Test and Analysis Program Description;
- C NEDC-33080P, TRACG Qualification for ESBWR;
- C NEDC-33081P, ESBWR Test Report;
- C NEDC-33082P, ESBWR Scaling Report;
- C NEDC-33083P, TRACG Application for ESBWR; and
- C NEDC-33084P, ESBWR Design Description, Rev.1.

By letter dated August 19, 2004, the Nuclear Regulatory Commission (NRC) staff issued a safety evaluation (SE) regarding the application of TRACG to ESBWR loss-of-coolant accident (LOCA) analyses. The letter requested that you review the SE for proprietary information. By letter dated September 10, 2004, as revised by letter dated September 23, 2004, from Robert E. Gamble, you identified this information line by line pursuant to the criteria of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.390. The proprietary information contained in the SE (Enclosure 1) is indicated by marginal lines. We have prepared a non-proprietary version of the SE (Enclosure 2 - ADAMS Accession No. ML04300303) that does not contain proprietary information.

The enclosed SE is limited to the application of TRACG to the ESBWR LOCA analyses and the relevant testing programs and scaling analyses. The staff concludes that TRACG, including the application methodology, is an acceptable evaluation model for ESBWR LOCA analyses. Therefore, the staff finds that NEDC-33083P, *TRACG Application for ESBWR*, is acceptable for

referencing during the ESBWR design certification to the extent specified and under the limitations delineated in the TR and in the associated NRC SE. The SE, which is enclosed, defines the basis for acceptance of the TR.

The NRC requests that GENE publish revised versions of the topical reports listed above within 3 months of receipt of this letter. The accepted version of NEDC-33083P shall incorporate this letter and the enclosed SE between the title page and the abstract, and add an "-A" (designating accepted) following the report identification number (i.e., NEDC-33083P-A).

If the NRC's criteria or regulations change so that its conclusion that the TR is acceptable is invalidated, GENE and/or the applicant referencing the TR will be expected to revise and resubmit its respective documentation, or submit justification for the continued applicability of the TR without revision of the respective documentation.

The subject TR and supporting documentation have been reviewed by the Advisory Committee on Reactor Safeguards (ACRS) which has agreed with the staff recommendation for approval by their letter of February 12, 2004.

If you have any further questions regarding this review, please contact Amy E. Cubbage (301-415-2875).

Sincerely,

/RA/

William D. Beckner, Program Director
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 717

Enclosures: 1. Safety Evaluation (Proprietary)
2. Safety Evaluation (Non-Proprietary)

cc: See next page (w/o enclosure 1)

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cc: See next page (w/o enclosure 1)

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OFFICE	RNRP/PM	RNRP/SC*	RNRP/BC
NAME	ACubbage	LDudes	WBeckner
DATE	10/26/2004	10/26/2004	10/28/2004

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ESBWR

cc:

Dr. Robert E. Gamble
Manager, ESBWR
GE Nuclear Energy
175 Curtner Avenue, MC 365
San Jose, CA 95125

Mr. George B. Stramback
Manager, Regulatory Services
GE Nuclear Energy
175 Curtner Avenue, MC 747
San Jose, CA 95125

Mr. J. Alan Beard
GE Nuclear Energy
13113 Chestnut Oak Drive
Darnestown, MD 20878-3554

Mr. David Lochbaum, Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street, NW., Suite 600
Washington, DC 20006-3919

Mr. Paul Gunter
Nuclear Information & Resource Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Mr. James Riccio
Greenpeace
702 H Street, Suite 300
Washington, DC 20001

Mr. Adrian Heymer
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. Thomas P. Miller
U.S. Dept. of Energy, NE-20, Rm. A286
Headquarters - Germantown
19901 Germantown Road
Germantown, MD 20874-1290

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Mr. Jack W. Roe
SCIENTECH, INC.
910 Clopper Road
Gaithersburg, MD 20878

Mr. Brendan Hoffman
Research Associate on Nuclear Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Tom Clements
6703 Gude Avenue
Takoma Park, MD 20912

Ms. Patricia Campbell
Winston & Strawn
1400 L Street, NW
Washington, DC 20005

Mr. Glenn H. Archinoff
5275 Westview Drive
ACR Suite
Frederick, MD. 21703-8306

Mr. Gary Wright, Director
Division of Nuclear Facility Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Mr. Charles Brinkman
Westinghouse Electric Co.
Washington Operations
12300 Twinbrook Pkwy., Suite 330
Rockville, MD 20852

Mr. Ronald P. Vijuk
Manager of Passive Plant Engineering
AP1000 Project
Westinghouse Electric Company
P. O. Box 355
Pittsburgh, PA 15230-0355

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Russell Bell
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. Ron Simard
6170 Masters Club Drive
Suwanne, GA 30024

E-Mail:
jim.mallay@framatome-anp.com